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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,252	09/18/2003	Tung-Lung Lin	ACMP0032USA	2251

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NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

WHITTINGTON, KENNETH

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/605,252	Applicant(s) LIN ET AL.	
	Examiner Kenneth J Whittington	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Amendment filed on February 24, 2005 has been entered and considered. In view thereof, the objections to claims 10 and 11 and the rejections of the claims under 35 USC 112 have been withdrawn.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Guyot et al. (US 6,060,880). Regarding these claims, Guyot et al. discloses a method for detecting the distance between first and second elements, both being formed of a magnetic permeable material (See Guyot et al. FIG. 8, items 38 and 32,34), comprising:

aligning an axis between the first and second elements (See FIG. 8);

providing a magnetic flux generator to generate magnetic flux between the first and second elements (See FIG. 8, note permanent magnet 18);

providing a magnetic sensor for detecting the magnetic flux (See FIG. 8, note Hall sensor 10);

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and moving the elements with respect to each other until the flux reaches a certain value (Note that Guyot et al. discloses measuring the distance between the two objects based upon the flux measured, see col. 1, lines 43-62, thus any predetermined value of the flux can be found by moving the elements with respect to each other).

Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (US 4,657,451). Regarding these claims, Tanaka discloses a method for detecting contact comprising:

positioning first and a second magnetically permeable elements along a first axis (See Tanaka FIG. 1, items 4 and 5);

providing a magnetic flux generator for generating a magnetic flux between the first and second elements (See FIG. 2, item 7);

providing a magnetic sensor for detecting the magnetic flux between the first and the second elements (See FIG. 2, item 12); and

adjusting a relative position of the first and the second elements until the magnetic flux detected by the magnetic sensor reaches a predetermined value (See col. 4, lines 3-25), and placing either the magnetic generator and sensor on either or

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both of the first and second element (See col. 5, line 58 to col. 6, line 2).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Guyot et al. in view of Kono et al. (US 2001/0009366). Guyot et al. teaches the limitations of claims 1-3 as noted above, however, it does not explicitly teach an amplifier connected to the Hall sensor. Kono et al. teaches connecting an amplifier to the Hall sensor (See Kono et al. page 2, paragraph 0046). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to connect an amplifier to the Hall sensor in order for the Hall unit to have functions of output gain adjustment, offset adjustment and electric trimming capabilities (See Kono et al. same paragraph).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Guyot et al. or Tanaka in view of Kono et al. and Ghibu et al. (US 3,849,724). Guyot et al. and

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Tanaka teach of using a Hall sensor or an induction coil, respectively. However, these references do not teach using MR or magnetic diodes. Kono et al. teaches alternatively using MR or Hall sensors and Ghibu et al. teaches of alternatively using either magnetic diodes, field plates, Hall sensors or induction coils. It would have been obvious at the time the invention was made to use any of the noted magnetic field devices in the apparatus of either Guyot et al. or Tanaka. One having ordinary skill in the art would have been motivated to do so since as recognized by Kono et al. and Ghibu et al., such sensors are well known alternatives for measuring magnetic flux.

Claims 7-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Otsuki et al. (US 4,562,756). Tanaka teaches the limitations of claims 1 and 10 as discussed above. However, Tanaka does not disclose the nature of the workpiece or tool that are brought into contact. Otsuki et al. teaches of a method of tightening screws using an NC tightening machine, wherein a plurality of screws are installed in a metal plate are located, a screwdriver is brought into contact with the screw which is then tightened (See Otsuki et al. col. 2, lines 5-41). It would have been obvious at the time the invention was made to incorporate the contact detection

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apparatus of Tanaka into the screw tightening apparatus of Otsuki et al. One having ordinary skill in the art would have been motivated to do so to provide a reliable indication that the screwdriver and the screw in the metal plate are in contact with each other so a machining or tuning operation can begin (See Tanaka col. 1, lines 5-15 and col. 1, line 63 to col. 2, line 2).

Regarding claims 8 and 11, it is noted that Tanaka teaches placing either the magnetic generator and sensor on either or both of the first and second element (See col. 5, line 58 to col. 6, line 2).

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are in part moot in view of the new grounds of rejection noted above.

However, with regard to the rejection of claim 1 as being anticipated by Tanaka from the prior Office Action, the rejection of which is repeated herein, those arguments will be addressed herein.

Applicant's primary contention that claim 1 is distinct from Tanaka is that Tanaka teaches detection of a "high frequency electric current H." However, this misinterprets the

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disclosure of Tanaka. Through the magnetic generation means, the apparatus of Tanaka creates an electromagnetic field (magnetic flux) flowing through the machine (shown as H in Tanaka FIG. 1). When the tool element is brought into contact with the workpiece, a high frequency electric current H is induced by the high frequency electromagnetic field (magnetic flux) into the detecting coil assembly (See Tanaka FIG. 1 and col. 4, lines 3-25). Thus, the apparatus is indeed detecting the magnetic flux by examining the current in the detection coil.

Similarly, Applicant's invention measures the magnetic flux by examining the voltage/current induced in the Hall effect sensor. Furthermore as noted above, induction coils and Hall sensors are alternatives in the art.

In view thereof, it is submitted that Tanaka does indeed disclose or teach the features of claim 1.

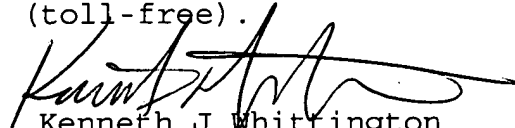
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J Whittington whose telephone number is (571) 272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kenneth J Whittington
Examiner
Art Unit 2862

kjw


JAY PATIDAR
PRIMARY EXAMINER